Current Pending Claims for Application No. 10/562,840

1. -36. (Cancelled)

37. (Proposed amendment) A method for analyzing nucleotide sequences ~~variations~~, comprising:

forming microemulsions comprising one or more species of analyte DNA molecules;

amplifying analyte DNA molecules in the microemulsions in the presence of reagent beads, wherein the reagent beads are bound to a plurality of molecules of a primer for amplifying the analyte DNA molecules, whereby product beads are formed which are bound to a plurality of copies of one species of analyte DNA molecule;

separating the product beads from analyte DNA molecules which are not bound to product beads;

determining a sequence feature of the one species of analyte DNA molecule which is bound to the product beads by flow cytometry~~:~~

~~isolating using fluorescence activated cell sorting product beads which are bound to a plurality of copies of a first species of analyte DNA molecule from product beads which are bound to a plurality of copies of a second species of analyte DNA molecule.~~

38. (Cancelled)

39. (Proposed amendment) A method for analyzing nucleotide sequences ~~variations~~ s, comprising:

forming microemulsions comprising one or more species of analyte DNA molecules;

amplifying analyte DNA molecules in the microemulsions in the presence of reagent beads, wherein the reagent beads are bound to a plurality of molecules of a primer for amplifying the analyte DNA molecules, whereby product beads are formed which are bound to a plurality of copies of one species of analyte DNA molecule;

separating the product beads from analyte DNA molecules which are not

bound to product beads;

determining a sequence feature of the one species of analyte DNA molecule which is bound to the product beads;

isolating product beads which are bound to a plurality of copies of ~~a first~~ the one species of analyte DNA ~~molecule from product beads which are bound to a plurality of copies of a second species of analyte DNA molecule~~;

amplifying the ~~first~~ one species of analyte DNA molecule from the isolated product beads.

40. (Cancelled)

41. (Cancelled)

42. (Cancelled)

43. (Proposed amendment) A method for analyzing nucleotide sequences ~~variations~~, comprising:

forming microemulsions comprising one or more species of analyte DNA molecules;

amplifying analyte DNA molecules in the microemulsions in the presence of reagent beads, wherein the reagent beads are bound to a plurality of molecules of a primer for amplifying the analyte DNA molecules, whereby product beads are formed which are bound to a plurality of copies of one species of analyte DNA molecule;

separating the product beads from analyte DNA molecules which are not bound to product beads;

determining a sequence feature of the one species of analyte DNA molecule which is bound to the product beads by hybridization to oligonucleotide probes which are differentially labeled.

44. (Proposed amendment) A method for analyzing nucleotide sequences ~~variations~~, comprising:

forming microemulsions comprising ~~one or~~ more than one species of analyte DNA molecules;

amplifying analyte DNA molecules in the microemulsions in the presence of reagent beads, wherein the reagent beads are bound to a plurality of molecules

of a primer for amplifying the analyte DNA molecules, whereby product beads are formed which are bound to a plurality of copies of one species of analyte DNA molecule;

separating the product beads from analyte DNA molecules which are not bound to product beads;

determining ~~relative or absolute~~ and comparing amounts of product beads comprising ~~one or more sequence features~~ a first species of analyte DNA molecule to product beads comprising a second species of analyte DNA.

Comment [s1]: Specification at page 13, lines 1-4 and page 23, lines 13-17

45. (Proposed amendment) The method of claim 44 wherein the ~~relative or absolute~~ amounts are determined using flow cytometry.

46. -59. (Cancelled)

60. (Proposed amendment) A method for isolating nucleotide sequences ~~variations~~, comprising:

forming microemulsions comprising ~~one or~~ more than one species of analyte DNA molecules;

amplifying analyte DNA molecules in the microemulsions in the presence of reagent beads, wherein the reagent beads are bound to a plurality of molecules of a primer for amplifying the analyte DNA molecules, whereby product beads are formed which are bound to a plurality of copies of one species of analyte DNA molecule;

separating the product beads from analyte DNA molecules which are not bound to product beads;

isolating using fluorescence activated cell sorting product beads which are bound to a plurality of copies of a first species of analyte DNA molecule from product beads which are bound to a plurality of copies of a second species of analyte DNA molecule.

61. (Cancelled)

62. (Proposed amendment) A method for isolating nucleotide sequences ~~variations~~, comprising:

forming microemulsions comprising ~~one or~~ more than one species of analyte DNA molecules;

amplifying analyte DNA molecules in the microemulsions in the presence of reagent beads, wherein the reagent beads are bound to a plurality of molecules of a primer for amplifying the analyte DNA molecules, whereby product beads are formed which are bound to a plurality of copies of one species of analyte DNA molecule;

separating the product beads from analyte DNA molecules which are not bound to product beads;

isolating product beads which are bound to a plurality of copies of a first species of analyte DNA molecule from product beads which are bound to a plurality of copies of a second species of analyte DNA molecule;

amplifying the first species of analyte DNA molecule from the isolated product beads.

63. -84. (Cancelled)

85. (New) A method for analyzing nucleotide sequences, comprising:

forming microemulsions comprising one or more species of analyte DNA molecules;

amplifying analyte DNA molecules in the microemulsions in the presence of reagent beads, wherein the reagent beads are bound to a plurality of molecules of a primer for amplifying the analyte DNA molecules, whereby product beads are formed which are bound to a plurality of copies of one species of analyte DNA molecule;

separating the product beads from analyte DNA molecules which are not bound to product beads;

determining a sequence feature of the one species of analyte DNA molecule which is bound to the product beads by primer extension.

86. (New) The method of claim 37 wherein the microemulsions comprise more than one species of analyte DNA molecules, said method further comprising:

isolating using fluorescence activated cell sorting product beads which are bound to a plurality of copies of a first species of analyte DNA molecule from product beads which are bound to a plurality of copies of a second species of

Comment [s2]: Same as allowed claim 48 but with alternate means of determining a sequence feature in the last step.

Comment [s3]: Specificaiton at page 9, last line.

analyte DNA molecule.

Comment [s4]: This step was formerly last step of claim 37.